

Interview Summary	Application No.	Applicant(s)	
	10/749,579	QUADLING ET AL.	
	Examiner	Art Unit	
	Gordon J. Stock	2877	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Gordon J. Stock. (3) Attorney David Judson.
 (2) Inventor Henley Quadling. (4) Fannie Evans.

Date of Interview: 03 March 2006.

Type: a) ☐ Telephonic b) ☐ Video Conference
 c) ☒ Personal [copy given to: 1) ☐ applicant 2) ☒ applicant's representative]

Exhibit shown or demonstration conducted: d) ☒ Yes e) ☐ No.

If Yes, brief description: animation of applicant's invention vs Wenz(5,440,393).

Claim(s) discussed: 1 and 13.

Identification of prior art discussed: Wenz (5,440,393), Ernst (6,402,707).

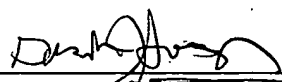
Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Claim 1 appears to overcome Wenz (5,440,393) for Wenz appears to not anticipate a light source having collimating optics. Further search will be performed. However, it is not apparent that Wenz lacks means for generating a collimated laser beam of light.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


 Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Applicant Initiated Interview Request Form

Application No.: 10/749579 First Named Applicant: QUADLING, HENRY
Examiner: STOCK Art Unit: 2877 Status of Application: After nonfinal

Tentative Participants:

(1) Henry Quadling (2) David Judson
(3) Gordon Stock (4) Fannie Evans

Proposed Date of Interview: 3/30/2006 Proposed Time: 10 (AM/PM)

Type of Interview Requested:

(1) ☐ Telephonic (2) ☒ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☒ YES ☐ NO

If yes, provide brief description: computer animations, physical device

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) <u>Rej</u>	<u>1</u>	<u>Wenz, Ernst</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(2) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Continuation Sheet Attached

Brief Description of Arguments to be Presented:

see attached

An interview was conducted on the above-identified application on 3/30/06.

NOTE: This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).

This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible.

Applicant/Applicant's Representative Signature

Examiner/SPE Signature

Typed/Printed Name of Applicant or Representative

30467
Registration Number, if applicable

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO, to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Stock, Gordon J.

From: David Judson [dhjhome@hotmail.com]
Sent: Wednesday, March 29, 2006 4:59 PM
To: Stock, Gordon J.
Subject: Proposed agenda for Interview

Mr. Stock - thank you again for agreeing to seeing me tomorrow at 10:00 am.
Henley Quadling, one of the co-inventors, will be joining, as I indicated.

As I mentioned today, we have prepared a pair of computer animations first to demonstrate to you what we believe are the salient differences between the Wenz interferometer approach and the scanning technique of the present inventions. Using these animations, we then plan to identify for you the particular claim language that we believe distinguishes over Wenz. Thus, e.g., we believe that Wenz does not include (in the words of claim 1 of 10/804,694) the claimed "light source having collimating optics configured to generate a collimated beam of light." For this reason alone, we contend that Wenz cannot anticipate. We will also point out a list of other differences, based on our understanding of the Wenz teachings, and tied to representative claims.

A secondary argument is that Ernst's description of a "curvilinear coordinate system" is not what the Applicants are claiming and, thus, we believe that any obvious rejection (relying, e.g., on Wenz and Ernst) does not reach the invention of, say, claim 4 of 10/804,694.

Mr. Quadling will be bringing an actual intra-oral digitizer wand to illustrate to you the optical system that is the subject of the claimed invention in 10/804,694. I am not sure if he will be bringing the supporting electronics, but it will illustrate the claim components.

Unless you would like to do so, we do not believe that is necessary to spend time on the drawing and claim informalities that you quite properly raised in your office actions. Those are easily addressed, and we will do so in the formal responses.

I look forward to meeting you and discussing these cases.

David Judson

Stock, Gordon J.

From: David Judson [dhjhome@hotmail.com]
Sent: Thursday, March 30, 2006 7:58 AM
To: Stock, Gordon J.
Subject: proposed claim language



IOD BTD
Final.doc

Mr. Stock - thank you for your email.

To facilitate our discussion this morning, I have proposed a clarifying amendment to claim 1 of 10/804,694, as well as a clarifying amendment to claim 1 of 10/749,579.

In addition, I have included a new claim 23 in the 804,694 case that goes specifically to the structure of the intra-oral laser digitizer itself. This new claim corresponds generally to the physical layout of the device that we will show you. We thought it would be useful to include a claim of this form.

We will see you at 10. Thanks again for your consideration.

David Judson
Reg. No. 30,467

>From: "Stock, Gordon J." <Gordon.Stock@USPTO.GOV>
>To: "David Judson" <dhjhome@hotmail.com>
>Subject: RE: Proposed agenda for Interview
>Date: Wed, 29 Mar 2006 17:22:00 -0500
>
>Mr. Judson:
>
>This is fine, but I will need you to fill out/sign an Applicant's Initiated
>Interview form tomorrow morning--and I will attach this proposed agenda to
>it for the record.
>
>Have a good afternoon, and see you tomorrow.
>
>--G
>
>-----Original Message-----
>From: David Judson [mailto:dhjhome@hotmail.com]
>Sent: Wednesday, March 29, 2006 4:59 PM
>To: Stock, Gordon J.
>Subject: Proposed agenda for Interview
>
>
>Mr. Stock - thank you again for agreeing to seeing me tomorrow at 10:00 am.
> Henley Quadling, one of the co-inventors, will be joining, as I
>indicated.
>
>As I mentioned today, we have prepared a pair of computer animations first
>to demonstrate to you what we believe are the salient differences between
>the Wenz interferometer approach and the scanning technique of the present
>inventions. Using these animations, we then plan to identify for you the
>particular claim language that we believe distinguishes over Wenz. Thus,
>e.g., we believe that Wenz does not include (in the words of claim 1 of

>10/804,694) the claimed "light source having collimating optics configured
>to generate a collimated beam of light." For this reason alone, we contend
>that Wenz cannot anticipate. We will also point out a list of other
>differences, based on our understanding of the Wenz teachings, and tied to
>representative claims.

>

>A secondary argument is that Ernst's description of a "curvilinear
>coordinate system" is not what the Applicants are claiming and, thus, we
>believe that any obvious rejection (relying, e.g., on Wenz and Ernst) does
>not reach the invention of, say, claim 4 of 10/804,694.

>

>Mr. Quadling will be bringing an actual intra-oral digitizer wand to
>illustrate to you the optical system that is the subject of the claimed
>invention in 10/804,694. I am not sure if he will be bringing the
>supporting electronics, but it will illustrate the claim components.

>

>Unless you would like to do so, we do not believe that is necessary to
>spend
>time on the drawing and claim informalities that you quite properly raised
>in your office actions. Those are easily addressed, and we will do so in
>the formal responses.

>

>I look forward to meeting you and discussing these cases.

>

>David Judson

>

>

>

>

>

Proposed amendments to 10/804,694 (IOD):

1. (currently amended) An intra-oral laser digitizer system comprising:
a light source having collimating optics configured to generate a collimated beam of light;
a scanner optically coupled to the light source and configured to scan the collimated beam along at least two axes to generate a pattern;
an optics relay coupled to the scanner and configured to relay the ~~scanned, collimated beam~~ the pattern towards a remote object to be imaged;
an image optics system having an optical axis configured to detect a reflection of the ~~scanned beam~~ pattern from the remote object at an angle θ , with respect to the optics relay and to generate data representative of a surface of the object based on the ~~reflected beam~~ reflection of the pattern; and
a processor coupled to the scanner and the image optics system configured to generate a three-dimensional image of the object based on the data.

21. (new) The intra-oral laser digitizer as described in claim 1 wherein the pattern comprises a set of segments.

22. (new) The intra-oral laser digitizer as described in claim 21 wherein each segment is a curve.

23. (new) An intra-oral laser digitizer comprising:
a light source having collimating optics configured to generate a collimated beam of light;
a scanner optically coupled to the light source and configured to scan the collimated beam along at least two axes to generate a pattern comprising a set of segments;
a first optics relay coupled to the scanner and configured to relay the pattern towards a remote object to be imaged;
an optical element configured to detect a reflection of the pattern from the object at an angle θ with respect to the first optics relay;
a second optics relay, co-linear to the first optics relay, the second optics relay coupled to the optical element and configured to relay the reflection of the pattern toward an image sensor.

Proposed amendments to 10/749,579 (BTD):

1. (currently amended) A laser digitizer comprising:
a light source having collimating optics configured to generate a collimated beam of light;
a scanner optically coupled to the light source and configured to scan the collimated beam along at least two axes towards an object to be imaged to generate a pattern comprising a set of curvilinear segments;
an image capture instrument having an optical axis at an angle θ , with respect to the scanner and configured to detect a reflection of the ~~scanned beam~~ pattern from the

object and to generate data representative of a surface of the object based on the reflected beam reflection of the pattern;

a processor coupled to the scanner and the image capture system configured to generate a three-dimensional image of the object based on the data.